

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of: Turner et al.

Serial No.: 10/823,479                      Group Art Unit: 3681

Filed: 04/13/2004                      Examiner: Pang, Roger L.

For: Differential With Pinion Bearings Supported on Input Yoke

Atty. Dkt. No.: 60,680-760

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**REPLY PURSUANT TO 37 C.F.R. § 1.111**

Dear Sir:

This paper is responsive to the Office Action mailed November 30, 2006.

**REMARKS**

**I. INTRODUCTION**

Applicants thank the Examiner for the indication of allowable subject matter in claims 3 and 5. Claims 1-8 are presently pending in this application. Applicants respectfully request reconsideration of the application in view of the following arguments.

## II. REJECTIONS OF CLAIMS 1-8 UNDER 35 U.S.C. § 103(A)

Claims 1-2 and 6-8 stand rejected as being unpatentable under 35 U.S.C. § 103(a) over Ries (U.S. Patent No. 4,468,981). Claims 1-2, 4 and 6-8 stand rejected as being unpatentable under 35 U.S.C. § 103(a) over Love (EP 0428075) in view of Ries.. Applicants respectfully submit that the rejections of claims 1-2 4 and 6-8 under 35 U.S.C. § 103(a) are improper because there is no suggestion or motivation to modify Ries or Love in the manner asserted by the Examiner and non reasonable expectation of success.

“Patent examiners carry the responsibility of making sure that the standard of patentability enunciated by the Supreme Court and by the Congress is applied in each and every case.” MPEP § 2141 (emphasis in original).

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all of the claim limitations.

MPEP § 2143. Applicants submit that there is no suggestion or motivation to modify Ries or Love in the manner asserted by the Examiner and non reasonable expectation of success.

Ries discloses a differential in which the input yoke 49 is partially disposed about the pinion shaft 35 and a set of bearings is disposed about the input yoke 49. Figure 5. The bearing set is not described in Ries and the Examiner implicitly acknowledges that the bearings do not have “a bearing cone in engagement with said input yoke” as recited in independent claim 1. See Office Action p. 2 (“Ries lacks the specific teaching of the first bearing set comprising of a conical bearing set.”). The Examiner asserts, however,

that it would have been obvious to modify the bearing set to meet this limitation “to provide a more efficient load-bearing bearing.” Office Action p. 2.

Similarly, Love discloses a differential in which an input yoke 56 is disposed about an end of a pinion shaft 26 and is supported by a set of bearings. Figure 2. The Examiner again implicitly acknowledges that Love does not have a “bearing cone in engagement with said input yoke” as recited in independent claim 1. See Office Action p. 3 (“Love lacks the specific teaching of the first and second bearing sets comprising of conical bearing sets.”). The Examiner again asserts, however, that it would have been obvious to modify the bearings to meet the claimed limitations “to provide a more efficient load bearing bearing.” Applicants respectfully disagree.

Ries discloses three sets of bearings along the axis of rotation of the pinion shaft. Bearing sets 38 and 39 are tapered bearings designed to react to axial and radial loads. The bearing set around the input yoke is not tapered and does not form part of the pinion bearing system. There is simply no suggestion or motivation to modify this bearing set—and no reasonable expectation of success. Bearing sets 38 and 39 already provide axial and radial bearing capabilities. There is simply no reason to add another tapered bearing about the input yoke. Further, installing a tapered bearing may create reaction forces that are out of balance. In particular, there would not be an opposing tapered bearing (i.e., in the three-bearing system that is employed, two tapered bearings would be oriented to oppose axial forces in one direction while only one tapered bearing would be oriented to oppose axial forces in the opposite direction). It also would not be possible to preload the pinion bearings--further counseling against employing a tapered bearing about the input yoke.

Love also discloses a system of three bearing sets with one bearing set disposed about a yoke. This bearing set disposed about the yoke again does not comprise part of the pinion bearing system. In the case of Love, none of the bearing sets appear to be tapered. Figure 2. For similar reasons, however, there is no suggestion or motivation to modify the bearing set about the yoke—and no reasonable expectation of success. Installing a tapered bearing would again create reaction forces that are of balance because there would not be an opposing tapered bearing. It also would not be possible to preload the pinion bearings--further counseling against employing a tapered bearing about the yoke.

Because there is no suggestion or motivation to modify the teachings of Ries or Love—and no reasonable expectation of success--Applicants respectfully submit that the rejections of claims 1-2, 4 and 6-8 under 35 U.S.C. § 103(a) are improper. Accordingly, Applicants request that the rejections of claims 1-2, 4 and 6-8 under 35 U.S.C. § 103(a) be withdrawn.

### III. CONCLUSION

For the above cited reasons, all of the claims presently pending in this application are believed to be allowable. If the Examiner has any further questions or concerns, the Examiner is invited to contact the Applicant's undersigned attorney.

Respectfully submitted,



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